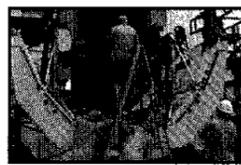




Fourth for Fifth

Astronaut Jerry Linenger talks about his preparation for staying on the Russian Mir Space Station. Story on Page 3.



Helping Hubble

Workers at Kennedy Space Center prepare *Discovery's* payload for STS-82. Photo on Page 4.

Space News Roundup

Vol. 36

January 10, 1997

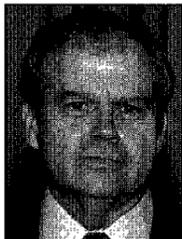
No. 2

O'Neill, Stone split duties in space, mission operations

Effective immediately, John O'Neill will hand over mission operations duties to Randy Stone, giving both Space Operations and MOD the opportunity to focus on their primary 1997 goals.

O'Neill, who has been serving in a dual capacity as director of MOD and Space Operations, will serve solely as the director of Space Operations while Randy Stone takes the reins as acting director in MOD.

"This change will allow Mr. O'Neill to concentrate his efforts on implementation of agency streamlining initiatives in the area of space operations, including completion of the Consolidated



O'Neill

Space Operations Contract," said JSC Director George Abbey. "Randy Stone is named acting director, pending Headquarters approval, and will allow MOD management to focus on the significant operational requirements in support of upcoming space shuttle and space station program milestones."

Stone is a recognized expert in all aspects of space flight operations, and has 30 years experience with JSC. He has held successively responsible managerial positions including chief of the Flight Director Office; assistant director for Space Transportation System Programs and assis-

tant director of MOD.

In addition, James Shannon, who has been serving in a dual capacity as deputy director, Space Operations Office and MOD, will serve solely in the position of deputy director of MOD.

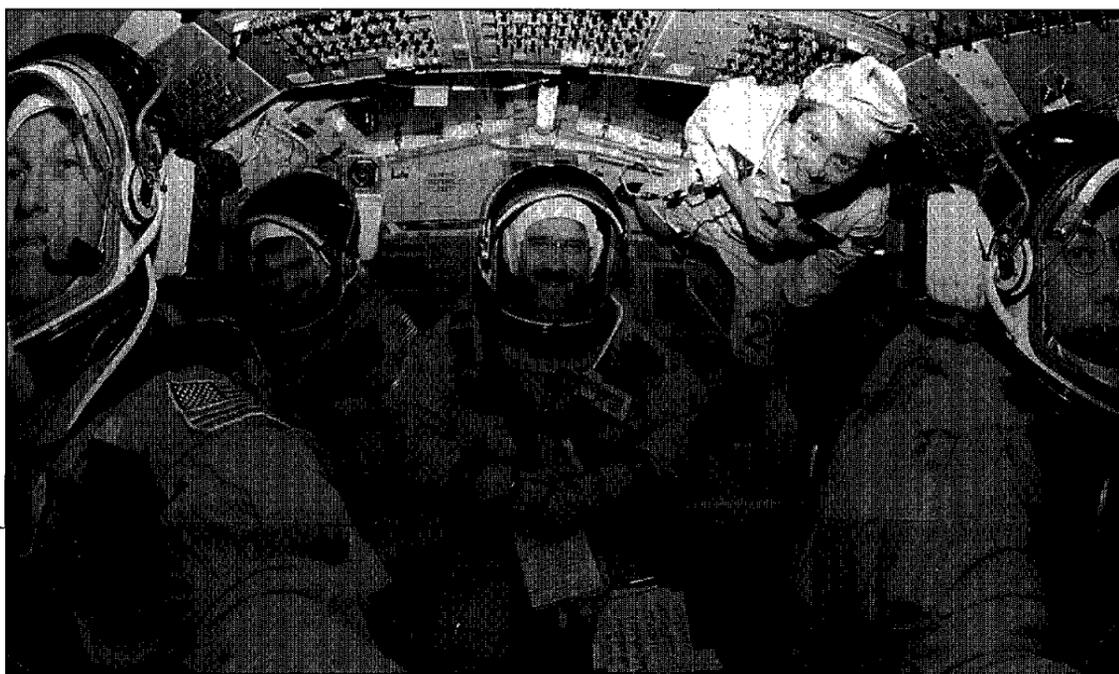
Jack Seyl has been appointed acting deputy director of the Space Operations Office, pending Headquarters approval. Most recently, Seyl served as manager of the Space Operations Engineering Office. He has held a number of managerial positions, including deputy assistant director for program support in MOD.

Other changes also will effect the two

organizations. Earl Thompson becomes the manager of the Engineering and Operations Office in Space Operations. He has worked at JSC for 31 years and most recently served as assistant to the director of MOD. Stan Newberry, who recently joined the Space Operations Office from NASA Headquarters, is named manager of the Management and Resources Office in Space Operations. Newberry has been with NASA for 10 years, and served most recently as manager of administration and resources for the Office of Life and Microgravity Sciences and Applications at NASA Headquarters.



Stone



NASA Photo

The STS-81 crew goes over preflight checklists on the flight deck of *Atlantis* during the final phase of the Terminal Countdown Demonstration Test. The crew are in its flight positions with the orbiter in a vertical attitude at Launch Pad 39B, with the camera pointed down from the front cabin area. This angle creates the illusion that astronaut support assistant Pam Melroy, second from right, is floating in space. From the left are Pilot Brent Jett, Mission Specialists Jeff Wisoff and John Grunsfeld and Commander Mike Baker.

Dispatchers move to new facility

Automated system goes on line to better protect JSC

After months of preparation, the JSC Emergency Operations Center Computer Aided Dispatch system is up and running and ready to dispatch personnel to all types of emergency situations.

"Dispatchers moved into the new area last month and have completed extensive training on the new system," said EOC Manager Clay Anderson. "The new CAD system will replace a lot of functions the dispatchers had to do manually. This state-of-the-art system brings the JSC level of emergency response to one of the highest levels in the country."

The new system automatically records where an emergency call is coming from and dispatchers will be able to direct personnel to precise locations.

"Before this system, dispatchers had to write everything down," Anderson said. "Now the computer

records the information and dispatchers can call emergency personnel with greater speed and efficiency than in the past."

The system received an Operational Readiness Inspection from senior managers, and personnel were given the go to move the dispatchers from their first floor location in Bldg. 30 to the third floor EOC.

"The dispatchers are very pleased with the new location," said Ken Ramke, chief of the Security Branch. "Everyone passed their training with flying colors and simulations are helping work out any kinks. They have welcomed the challenge of learning the new system."

Dispatchers received 40 hours of familiarization training and have spent numerous hours in simulation

Please see EOC, Page 4

First '97 flight continues cooperation

By Karen Schmidt

The first space shuttle flight for 1997 continues the cooperative effort of space and science exploration between the U.S. and Russia.

Atlantis—targeted for liftoff at 3:27 a.m. CST Sunday from Kennedy Space Center—will carry a crew of six for a fifth docking to the Russian Mir Space Station. With an on-time launch, Commander Mike Baker, Pilot Brent Jett and Mission Specialists Jeff Wisoff, John Grunsfeld, Marsha Ivins and Jerry Linenger would reach Mir Tuesday and docking would occur about 9:50 p.m. CST.

After verifying a good seal between the two craft, Baker will open the hatch about two hours later and greet fellow American John Blaha who has been stationed at the Russian outpost for the past four months. The shuttle will remain docked to Mir until Sunday while the crew completes transfers of more than 5,975 of supplies to Mir and Blaha hands over his duties to his replacement. Linenger has been in Russia for the past year and a half and will remain on Mir until May when *Atlantis* returns with his replacement, Mike Foale. Linenger said because of his training on both American and Russian systems he feels 100 percent ready to go.

"I have the one shuttle flight STS-64 under my belt and I am pretty comfortable with shuttle operations,"

said Linenger during a crew news conference. "I think for most Americans these long-duration flights are a new experience. It's been a long time since Skylab."

Atlantis will carry the Spacehab double module. The module will be used to store supplies for Mir and the return trip to Earth.

"On this one, it (the Spacehab module) really is a carrier where we're moving all the furniture that's



inside over to Mir and bringing back experiments that have been completed to bring back to the investigators," Jett said. "Part of our challenge is to do all that in five days."

The transfer of water, science equipment, Russian logistics and miscellaneous materials will take up a majority of the crew's days.

"We have all been trained in how to do the water collection," Ivins said. "We have a good support system here on the ground that really stays up to the moment with all of the items to be transferred and they will give me a list before we fly and we will move all three tons over to the Mir and back."

During docked operations the crew will conduct a variety of science experiments on Mir. Science experiments will focus on microgravity research on humans, plants and the Mir environment. Samples will be collected from Blaha, Mir 22

Please see BLAHA, Page 4

Visitor center features new IMAX

Space Center Houston's newest IMAX film, *Speed*, allows viewers to experience the thrill of victory without the agony of defeat and is only one of the new features for 1997.

The latest film to be featured in Space Center Theater, *Speed* is an experience rather than a film. Viewers ride along with bicycle racers in the Olympic velodrome, race through the streets of Fresno, Calif., with Indianapolis racer Billy Vukovich, fly with the U.S. Navy Blue Angels high above the Earth and speed down the drag strip at 320 miles per hour with a jet engine dragster.

"The film is certainly a full-body experience," said Former Astronaut

Ken Reightler who attended a special sneak preview last week. "It gives you a good idea of speed in all of its shapes and forms and a sense of how speed is relative. This film is a perfect fit into the mission of Space Center Houston in that it excites but also teaches."

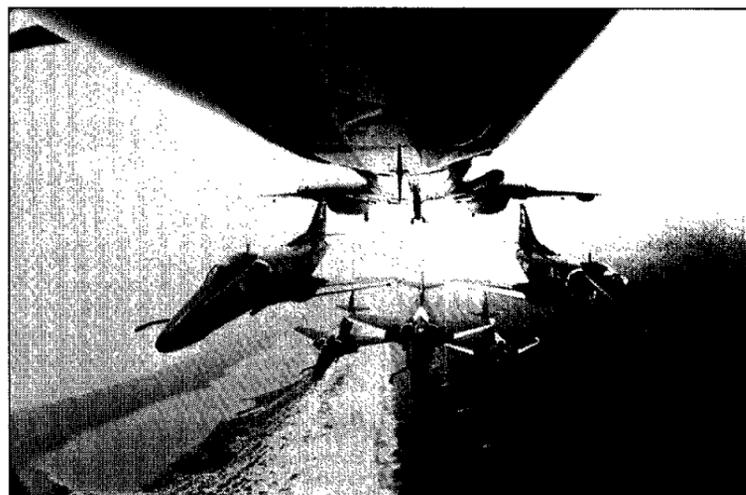
The film traces the development of speed from the first bicycle to Lockheed-Martin's SR-71 Blackbird that travels in excess of Mach 3. The film also explores the speed of spacecraft registering Apollo 10 as the fastest man has ever flown at 24,250 mph. Combining computer graphics with live action, the film captures the human race's fascination with speed. The film doesn't tell

about the impact of mechanization in humans lives, but lets the viewer experience for themselves the mixture of awe and discomfort that characterizes the alliance. The film captivates an audience because it shows them the effects of from their point of view. *Speed* will be showing until July 3.

SCH also is showing another IMAX film. *To Be An Astronaut* focuses on the personal experiences of astronauts in training from classroom lectures to on-orbit operations.

Ongoing at SCH is "Close Encounters" at 10:30 a.m. every Tuesday. Presentations by JSC scientists and engineers give visitors a

Please see '97, Page 4



Space Center Houston's new IMAX movie, *Speed*, features a ride with the U. S. Navy Blue Angels.

JSC

Ticket Window

The following discount tickets are available for purchase in the Bldg. 11 Exchange Store from 10 a.m.-2 p.m. Monday-Thursday and 9 a.m.-3 p.m. Friday. For more information, call x35350 or x30990.

Loving Feelings Concert: Johnny Rivers 8 p.m. Feb. 8 at the Arena Theater. Tickets cost \$34.50.

EAA Spring Break Special to Rome: March 8-15, \$1,099 double occupancy. \$200 deposit required. Final payment due Jan. 8.

Space Center Houston: Adult \$8.75; children (4-11) \$6.25, annual membership \$25.95, family membership (up to four) \$59.95.

Movie discounts: General Cinema, \$4.75; AMC Theater, \$4.50; Sony Loew's Theater, \$4.75.

JSC logo shirts: Polo style cost \$23. T-shirt cost \$10.

Franklin Planner refills: now taking orders for 1997 calendars.

Stamps: Book of 20, \$6.40.

Entertainment '97 books: Cost is \$25.

Gold C Books: Cost is \$10.

"Orbit": The book "Orbit" by Jay Apt, Mike Helfert and Justin Wilkinson is on sale for \$28.

Metro tickets: Passes, books and single tickets available.

JSC

Gilruth Center News

Sign up policy: All classes and athletic activities are first come, first served. Sign up in person at the Gilruth Center and show a yellow EAA badge. Classes tend to fill up two weeks in advance. Payment must be made in full, in exact change or by check, at the time of registration. No registration will be taken by telephone. For more information, call x30304.

EAA badges: Required for use of the Gilruth Center. Dependents and spouses may apply for photo identification badges from 7:30 a.m.-9 p.m. Monday-Friday; and 8 a.m.-1 p.m. Saturdays. Cost is \$10. Dependents must be between 16 and 23 years old.

Hatha Yoga: A stress relieving, stretching and breathing exercise routine to unite body, mind and spirit. Classes meet from 5:30-6:30 p.m. Thursdays. Cost is \$40 for eight weeks.

Nutrition intervention program: A six-week program to learn more about the role diet and nutrition plays in health, including lectures, private consultations with a dietitian and blood analysis. Program is open to all employees, contractors and spouses. For more information call Tammie Shaw at x32980.

Defensive driving: One-day course is offered once a month. Pre-registration required. Cost is \$25.

Stamp club: Meets at 7 p.m. every second and fourth Monday in Rm. 216.

Weight safety: Required courses for employees wishing to use the weight room will be offered from 8-9:30 p.m. Jan. 14 and 28. Pre-registration is required. Cost is \$5.

Exercise: Low-impact class meets from 5:15-6:15 p.m. Mondays and Wednesdays. Cost is \$24 for six weeks.

Aikido: Martial arts class meets from 5:15-6:15 p.m. Tuesday and Wednesday. Cost is \$35 per month. New classes begin the first of each month.

Aerobics: Classes meet from 5:15-6:15 p.m. Tuesdays and Thursdays. Cost is \$32 for eight weeks.

Ballroom dancing: Beginner classes meet from 7-8:15 p.m. Thursdays. Intermediate and advanced classes meet from 8:15-9:30 p.m. Cost is \$60 per couple.

Country and Western dancing: Beginner class meets 7-8:30 p.m. Monday. Advance class meets 8:30-10 p.m. Monday. Cost is \$20 per couple.

Fitness program: Health Related Fitness Program includes a medical examination screening and a 12-week individually prescribed exercise program. For more information call Larry Wier at x30301.

JSC

Swap Shop

Swap Shop ads are accepted from current and retired NASA civil service employees and on-site contractor employees. Each ad must be submitted on a separate full-sized, revised JSC Form 1452. Deadline is 5 p.m. every Friday, two weeks before the desired date of publication. Ads may be run only once. Send ads to Roundup Swap Shop, Code AP2, or deliver them to the deposite box outside Rm. 181 in Bldg. 2. No phone or fax ads accepted.

Property

Sale: Friendswood, Heritage Park 3-2-2, ex cond, security system, ceramic tiles, \$81.9k. 996-0152.

Sale/Rent: University Trace Condo, 1 BR, study, W/D, cov parking, \$32k or \$525/mo. x48621 or 480-2417.

Lease: CLC 1 BR condo, FPL, W/D conn, ceiling fan, appliances, new carport, fresh paint. Jim Briley, 244-4632 or 488-7901.

Lease: Sageglen 4-2-2, 1 story, 2200 sq ft, both formal, den, FPL, walk-in closets, CCISD, no pets, \$850/mo. 282-3229 or 286-4547.

Lease: Middlebrook 4-2-2, formal, fenced, fans, garage door openers, front and back decks, ex cond, \$1100/mo plus deposit, nego. 944-2461.

Sale/Lease: Egret Bay Villas, 1-2-2cp, FPL, W/D, patio, ceiling fans, all appliances, security gate, boat ramp, new paint and carpet, \$475/mo. 335-1451.

Sale: Clear Lake Forest 3-2-2 on approx 1 ac wooded lot, new roof, remodeled kitchen, sprinkler system, zoned air, \$141k. 326-2557.

Lease: Baywind 1 condo, 2-1-5-2 upstairs, large unit, all appliances, ceiling fans, W/D conn, recent carpet and paint, \$525/mo plus dep obo. L. Das, x33235 or 488-5532.

Sale/Lease: Tiki Island, waterfront, 3-2-1 w/boat dock and lift, \$1100/mo or \$112k. Phil, x30220 or 337-4168.

Rent/Sale: Boat slip on Clear Lake, roof and motorized boat hoist for power boats, \$7.5k. 474-4922.

Rent: Arkansas cottage overlooking Blue Mountain Lake and Mount Magazine, fully furnished, massive FPL, antiques, \$50/day or \$250/week. Corcoran, x47806 or 334-7531.

Galveston condo, furnished, sleeps 6, Seawall Blvd and 61st St, swimming pools, cable TV, wknd/wkly/dly rates. Magdi Yassa, 333-4760 or 486-0788.

Cars & Trucks

'90 Honda Accord EX, sunroof, all power, CD, green w/tan interior, good cond, \$7k. x32806 or 281-554-2625.

'84 VW Scirocco, bronze, good cond, 5 spd, 104k mi, \$1.2k. 280-0415.

'92 Ford Taurus LX, 4 dr, auto, pwr, \$7.9k. 334-3066.

'90 Ford Mustang GT convertible, 5.0L, auto, pwr, low mi, \$8.5k. 334-3066.

'94 Saturn SC2, 2 dr, gold, ex cond, 21k mi, 5 spd std, A/C, P/S, AM/FM/cass w/upgraded spkrs, \$13k. Dan, x30764 or 334-5270.

'87 Nissan Sentra, 4 cyl, std, radio/cass, ex cond, grey/silver, good tires, new compressor on A/C, needs freon, 143k mi, \$1.5k. 487-7132.

'91 Toyota Camry, 4 dr, maroon w/dk gray interior, auto, A/C, AM/FM/cass, ex cond, \$7k. 282-3229 or 286-4547.

'83 Ford customized van, 68k mi, front and rear A/C, AM/FM/cass, pwr steering, pwr brakes, 4 capt chairs, rear folding bench seat, ex cond, \$5.5 obo. 281-438-0201.

'88 Toyota Tercel, 4dr htchbk, 100k mi, A/C, AM/FM/cass, auto, good cond, \$2.5k obo. 281-438-0201.

'84 Corvette, white w/red interior, 84k mi, loaded, auto, leather, new A/C, \$10.4k. Jeff, x41947 or 286-6785.

'88 Plymouth Grand Voyager, all options, rear air, 99k mi, \$3.9k, x47326 or 486-9673.

'93 Ford Ranger XLT, std, A/C, AM/FM/cass, white exterior, ex cond, sliding rear window, \$5.4k, loan balance. 409-925-4244.

'85 Pontiac Fiero, 118k mi, V6, 4 spd, sunroof, access, looks and runs good, \$2.2k. 479-2979.

'88 Honda Accord LX, 4 dr, 5 spd, A/C, tinted glass, AM/FM, gold, 119.7k mi, \$3.5k obo. x30784 or 480-1753.

'90 Acura Legend, 2 dr, auto, leather, sun roof, tint wind, ABS, ex cond, 53k mi, \$13,250. Steve, 992-3377.

'84 Mazda RX7, 131k mi, 5 spd, new AM/FM/cass, new brakes, clean, \$1.8k. 281-486-8551.

'92 Ford Tempo, 57k mi, ex cond, warranty transferable, \$5.2k obo. 992-4099.

'81 Buick Century, \$1.1k nego. Norbert, 713-810-9012 or 713-729-7121.

'89 Camaro RS, blk w/red interior, T-tops, cruise, pwr locks, auto, new tires, 100k mi, clean, runs great, \$6k obo. Susan Brown, 281-244-8770 or 409-925-7261.

'91 Pontiac Formula Firebird, 5.7L new transmission, WS6 suspension, some performance parts, limited warranty, \$7.7k. x32857.

'90 Nissan 240SX htchbk, auto, AM/FM/cass, A/C, P/S, P/B, P/W, 41k, mi, alarm, x48911 or 480-7882.

'86 Taurus LX, loaded, reliable, runs well, JSC Credit Union Book value obo. Richard, 538-1854.

'90 Honda Civic, 89k, auto, AM/FM/cass, 2 dr, htchbk. \$4.5k. 244-4118 or 282-4914.

'92 BMW 325i, 4 dr sedan, auto, granite silver, 6 cyl, 189 Hp, limited slip differential, sunroof, leather, 57,050 mi, ex cond, \$19.9k. 281-480-6578.

'87 Chrysler New Yorker, loaded, clean, no body dents, good mechanical cond, 104k mi, \$2.5k. x30735 or 488-0137.

'90 Chrysler LeBaron, 40k mi, V6, auto, gray 2 dr, elect windows and locks, A/C, ex cond, \$6.5k obo. 281-482-7676.

'83 Silver Mercedes 380SL, 2 tops, \$13.2k. x35145 or 326-2557.

'94 Honda Accord LX, ex cond, 27.5k mi, 4 cyl, white ext, tan cloth int, auto, 4 dr, ABS, dual airbags, loaded, \$15.5k obo. Gus, x33425 or 286-3402.

'80 Mercedes 450SLC, silver sports car, auto, all amenities, sunroof, leather, good cond, \$9k obo. Steph, x49810 or Bloke, 474-2896.

'88 Ford F250 PU, A/C, cass, new battery, grey/tan, 5th wheel, good cond, \$5k obo. Steph, x49810 or Brad, 333-1345.

Boats & Planes

'93 Crownline 20, Mercury 305 V8, loaded, low hours, bimini top, custom cover, Shorelander custom trailer, \$13.9k obo. Don, x38039 or 333-1751.

Aluminum 21-inch prop off Mercruiser I/O 135 Hp engine, \$50; tire w/rim for boat trailer, unused, \$50. Robert, x37739.

JSC

Dates & Data

Today

Astronomers meet: The JSC Astronomical Society will meet at 7:30 p.m. Jan. 10 at the Lunar and Planetary Institute, 3600 Bay Area Blvd. For more information call Chuck Shaw at x35416.

Cafeteria menu: Special: baked chicken. Total Health: roast beef au jus. Entrees: deviled crab, baked chicken, beef cannelloni, steamed pollock, Reuben sandwich. Soup: seafood gumbo. Vegetables: seasoned carrots, peas, breaded okra, steamed cauliflower.

Monday

Cafeteria menu: Special: hamburger steak. Total Health: vegetable lasagna. Entrees: beef Burgundy over noodles, barbecue smoked link, vegetable lasagna, steamed fish, French dip sandwich. Soup: chicken and wild rice. Vegetables: buttered corn, steamed spinach, vegetable sticks, navy beans.

Tuesday

Cafeteria menu: Special: turkey and dressing. Total Health: roast turkey. Entrees: barbecue spare ribs, liver and onions, baked chicken, steamed fish French dip sandwich. Soup: black bean and rice. Vegetables: steamed broccoli, California vegetables, breaded squash, savory dressing.

Wednesday

Spaceland Toastmasters meet: The Spaceland Toastmasters will meet at 7 a.m. Jan. 15 at the House of Prayer Lutheran Church. For more information call Jeannette Kirinich at x45752.

Spaceteam Toastmasters meet: The Spaceteam Toastmasters will meet at 11:30 a.m. Jan. 15 at the

United Space Alliance in the Civic Room at 600 Gemini. For more information call Pat Blackwell at 282-4302 or Ben Black at 282-4166.

Astronomy seminar: The JSC Astronomy Seminar will be held at noon Jan. 15 in Bldg. 31 Rm. 129. An open discussion meeting is planned. For more information call Al Jackson at x35037.

Scuba club meets: The Lunarfans will meet at 7:30 p.m. Jan. 15 at the Redfish Restaurant under the Kemah/Seabrook bridge, Seabrook side. For more information call Fred Toole at x33201.

Cafeteria menu: Special: Mexican dinner. Total Health: ground turkey tacos. Entrees: beef cannelloni, turkey tacos, steamed fish, Reuben sandwich. Soup: seafood gumbo. Vegetables: peas and carrots, ranch beans, mustard greens, Spanish rice.

Thursday

Reservations due: The American Institute of Aeronautics and Astronautics will meet at 5:15 p.m. Jan. 23 at the Gilruth Center. Richard Martin will discuss "The Atlas Rocket—It Just Keeps Going and Going." Reservations are due by Jan. 16. For more information call Pam Sisk at x38341 or Danita Thomas at x32348.

Directors meet: The Space Family Education board of directors will meet at 11:30 a.m. Jan. 16 in Bldg. 45 Rm. 712D. For more information call Gretchen Thomas at x37664.

Cafeteria menu: Special: smothered steak. Total Health: steamed pollock. Entrees: chicken and dumplings, corned beef and cabbage, broccoli cheese quiche, steamed fish, French dip sandwich. Soup: navy bean soup. Vegetables:

steamed cabbage, cauliflower au gratin, buttered carrots, lima beans.

Friday

Cafeteria menu: Special: baked meatloaf. Total Health: baked potato. Entrees: chicken fajitas, ham steak, pork and beef eggrolls, steamed fish, Reuben sandwich. Soup: seafood gumbo. Vegetables: stewed tomatoes, seasoned spinach, cut corn, macaroni and cheese.

Jan. 29

Astronomy seminar: The JSC Astronomy Seminar will be held at noon Jan. 15 in Bldg. 31 Rm. 129. Dave Kaplan will discuss "Mars Sample Return Mission Design." For additional information call Al Jackson at x35037.

Spaceteam Toastmasters meet: The Spaceteam Toastmasters will meet at 11:30 a.m. Jan. 29 at the United Space Alliance in the Civic Room at 600 Gemini. For more information call Pat Blackwell at 282-4302 or Ben Black at 282-4166.

Feb. 4

Astronomers meet: The JSC Astronomical Society will meet at 7:30 p.m. Feb. 4 at the Lunar and Planetary Institute, 3600 Bay Area Blvd. For more information call Chuck Shaw at x35416.

Feb. 6

Warning system test: The site-wide Employee Warning System will undergo its monthly audio test at noon Feb. 6. For more information call Bob Gaffney at x34249.

Feb. 12

MAES meets: The Society of Mexican American Engineers and Scientists will meet at 11:30 p.m. Feb. 12 in the Bldg. 3 cafeteria. For more information call Mike Ruiz at x38169.

Cycles

Dyno VFR boy's bike, \$70 obo. 480-8101 x559.

Audiovisual & Computers

Comp sys 486/33, AMB RAM, 120MB HD, modem, 3.5" and 5.25" FD, .28 14" SVGA monitor, \$500 obo. 996-0152.

Packard Bell Pentium, 166 MHz PC, 2.1 GB HD, 32MB RAM, 2MB video RAM, 28.8KB modem w/fax and phone answer, 6X CD ROM, Windows 95, S/W, \$1250. Andy Lim, x31596 or 488-5534.

Mac color monitor w/built in speakers, 14" SVGA .28, \$199; SCSI Syquest 270MB external cartridge drive w/2 cartridges, \$185. 244-2444 or 488-4382.

Mac Powerbook 180c, 8MB RAM, 160MB HD, active matrix color monitor, new battery, carrying case, ac adapter, charger, S/W, \$785. 244-2444 or 488-4382.

Toshiba 386 laptop w/docking sta, \$450; new DX2-66 and DX4-100, \$695/\$745; new Pentium 100-133-166, \$929/\$979/\$1109; 386, \$250. Don, 333-1751.

Pentiums 100/133/166 MHz, Intel/Viper, 16MB RAM, 1.2 GB HD, 8X CD multimedia, 33.6 fax modem w/voice, 14" .28 SVGA monitor, FD, keyboard, speakers, mouse, \$1125/\$1398; 8MB memory, \$61; 16MB, \$119; Pentium 100/133 motherboard, \$245; \$349. Ayub, x39199 or 910-6700.

Mac LC II 8/80 w/accelerator chip, NEC Multisync 3fpx 15" color monitor, extended keyboard, mouse, US Robotics 14.4 fax/modem, associated hardware, \$400 obo on any or all. Grant, 333-6449 or 480-5853.

486 DX4/100, 12MB RAM, 215 MB HD, 1MB VLB video, multimedia, NEC 6X CD ROM, US Robotics 14.4 fax/modem, keyboard, mouse, no monitor, \$850. Ian, x39574 or 281-461-8356.

Compaq scanner keyboard, new, \$140. 281-286-5248.

SIMM 33 RAM converter, converts four 30-pin SIMMs to fit one 72-pin slot, compatible w/all 30-pin SIMMs, w/ or w/o parity bit, PC/Mac compatible, new, \$18. Jim, x36897.

Stepdown transformer 220V/110V, 1000 Watts to run US equipment in Europe, \$45. 281-480-6578.

Musical Instruments
Red mahogany piano, \$400. 326-2557.

King trombone, ex cond. x33137 or 334-2533.

Pets & Livestock
Australian Shepard mix puppies, \$60. 489-4549.

Retired racing Greyhounds, excellent pets. x37951 or 409-925-8570.

AKC American Eskimo puppies, b12/11, avail 1/29, will have shots and be wormed, \$300 obo. Janelle, 280-0222 or 281-282-9334.

Mini-Rex rabbits, \$10 ea. 482-0874.

Lost & Found
Lost: dog, small, thin, cream colored, med long semi-shaggy hair, mixed breed, male, Pomeranian-like face, frightens easily, very timid. Last seen in Bay Glen and Bay Oaks on 12-10-96, reward. 480-8101 x509 or 486-9605.

Household
Roll top desk, oak, good cond, \$350 obo. 488-2316.

Simmons white baby crib w/mattress, ex cond, \$180; crib bumper pad, skirt, diaper stacker, sheets, all matching, \$75. Rose, x37491 or 337-7373.

White/antique gold children's furniture, chest, \$35; nightstand, \$15. 286-0319.

Matching couch and loveseat w/2 chairs, \$250; one white Lazyboy couch, \$200; refrigerator w/top freezer, \$75; go-cart, 2-seater, \$125; 1 team autographed football from '91 NY Giants, \$200. 286-1601.

Clayton-Marcus country/colonial sofa, cream background, light blue stripes, plaid, w/mauve accent, 4 yrs old, \$275 obo. 480-8101 x559.

King-size motionless waterbed, double mattress, heaters, 6 drawers, \$150. 286-9227.

Southwest style overstuffed couch, huge loveseat and ottoman, Scotchguard, heavy cotton, mostly beige white w/desert sand and turquoise designs, 1.5 yrs old, was \$2100, now \$800 obo. 280-8369.

Black leather king size waterbed frame, \$40. Shelly, x37824 or 409-943-4168.

Gas dryer, white, \$50. x31883.

Bedroom set, full size, antique green, w/dresser, 5 drawer chest and 2 night stands, Italian design, good cond, \$850. Magdi Yassa, x333-4760 or 486-0788.

Wanted

Want non-smoking roommate to share large 3 BR home in Clear Lake area, \$375/mo bills paid. John, x30543 or 286-7384.

Want mature female to share expense of 3-2-2 house w/owner in Jan '97, no pets, nonsmoker. \$400/mo plus \$200 dep. 484-8640.

Want Nutone Food Center implements, need food processor, can opener and others. Gerry, x49666 or 281-326-0076.

Want roommate in Pasadena area, \$350/mo. Tamela, x36155 or 998-9959 voice or TDD.

Want Toddler car seat, 20-40 lbs, in good cond, refer light color and T-strap. Natalie, x34989 or 474-3483.

Want couples or singles interested in Friday dancing to start class w/The Shuttiebugs on Friday nights starting 1/10/97. 554-7757 or 488-7509.

Want greenhouse for backyard, complete or frame only, good cond. Amanda, 480-8101 x509 or 486-9605.

Want personnel to join VPSI Vanpool, depart Meyerland Park and Ride at 7:05 a.m. for JSC, on-site personnel, 8 a.m. to 4:30 p.m. shift. Loan Lee, x36186.

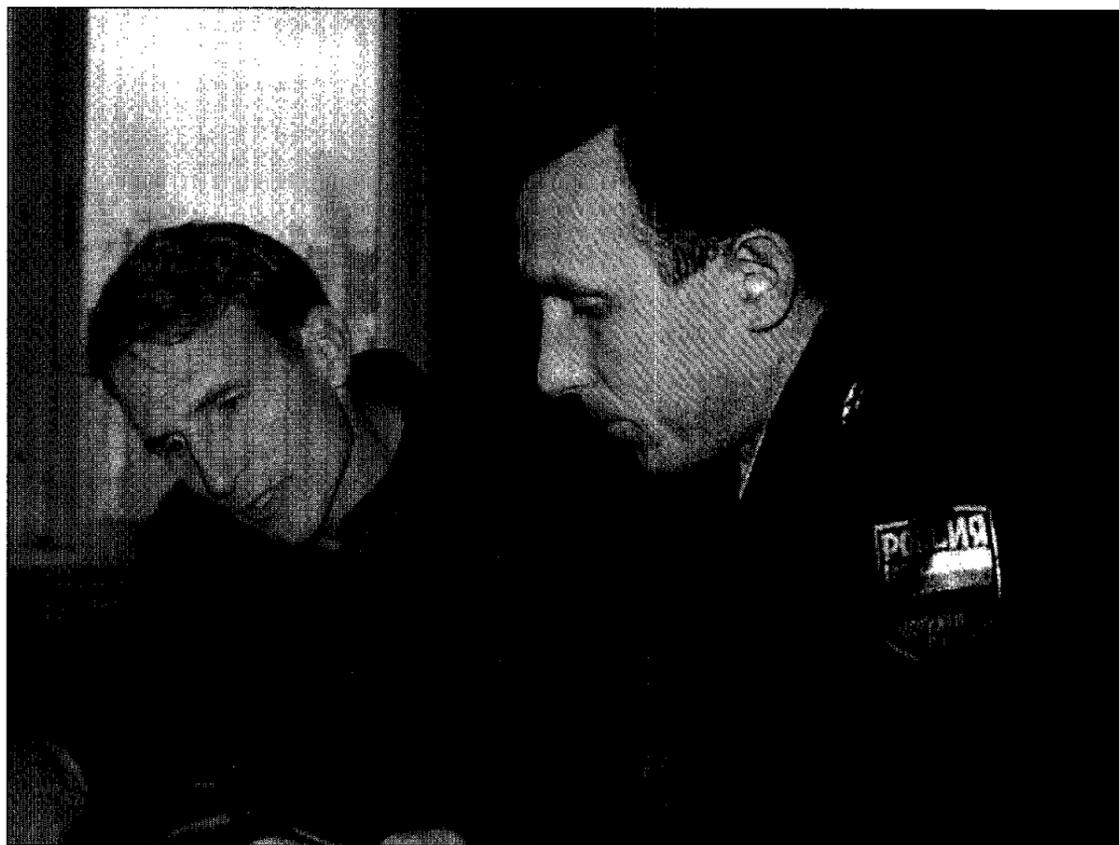
Want electric guitar w/amp, will pay \$250 max. 482-0874.

Want 13 yr old boy for baseball team. 334-2533.

Want low priced school/work car or truck, prefer Japanese.

Fourth For Five

'Balanced life' sets stage for journey to Mir



By Kyle Herring

Astronaut Jerry Linenger has lived and trained in Russia nearly as long as he was at JSC prior to his first space shuttle mission. He now awaits the start of his second flight into space in the wee hours Sunday morning aboard *Atlantis* to dock with the Russian Mir Space Station. His unique preparation for the flight included midnight cross-country skiing by himself.

Awaiting his arrival is John Blaha who replaced Shannon Lucid in September. Linenger trained as Blaha's backup at the Gagarin Cosmonaut Training Center in Star City outside Moscow. He now is ready to take his place aboard Mir for the next five months as the fourth astronaut to live and work on the Russian space station and the first to conduct a space walk while a member of a Mir crew.

Once *Atlantis* docks with Mir, Linenger will become a member of the Mir 22 crew until the arrival of Commander Vasili Tsibliev, Flight Engineer Aleksandr Lazutkin and German Researcher Reinhold Ewald in early February. Ewald will depart with the Mir 22 crew leaving the remaining three cosmonauts to make up the Mir 23 crew.

A member of the astronaut class of 1992, Linenger has been in Russia training for his flight since May 1995. During that time, two new groups of astronauts came to work for NASA classes of 1995 and 1996.

While these two new groups of astronauts comprise nearly half of the entire astronaut corps, it is doubtful that many of them even knew who Linenger was when he returned from Russia for the final weeks of training last month. Yet, all likely will be the recipients of his wisdom on long duration stays in space since they will live and work aboard the International Space Station.

When Linenger went to Russia a year and a half ago, one of the first stops was the American Embassy in Moscow to get checked in and obtain credentials that he'd use for the duration of full-time training as the fourth astronaut to live and work aboard the Mir space station.

"I'd say I started off kind of feeling like a pioneer" when the only astronauts training in Russia were Lucid, Blaha and himself, he says. Though Astronaut Scott Parazynski arrived at the same time, he later returned home when it was decided that his size would prevent him from safely fitting in the Soyuz capsule used to return to Earth in the event of an emergency.

"In the beginning, it was kind of like Lewis and Clark going out west," Linenger says. That has changed more recently, he adds, as more astronauts and other co-workers have arrived to support missions and training.

In addition to the staff at Star City and the embassy, a small group of what amounts to flight controllers work out of the mission control center in Korolev, supporting the astronauts once they arrive at the space station.

"Now the settlers are starting to arrive," Linenger jokes. Astronaut Mike Lopez-Alegria, currently the NASA manager at Star City, oversees the training activities of U.S. astronauts Mike Foale, Wendy Lawrence,

Dave Wolf and Jim Voss.

Once he officially becomes a crew member of the space station, Linenger will be busy working mainly with existing experiments, with a flavor of life sciences investigations sprinkled throughout the work day. A physician and captain in the U.S. Navy Medical Corps, Linenger says he is looking forward to the life sciences work in space, but he has found the material science studies a welcome challenge.

"It's like going back to school again and learning some of the basic science behind it and then getting into the actual mechanics of how to carry out the experiment," he says. "It's been a challenge with a little education thrown in. A very steep learning curve is always fun to be on and it's hard to lose interest."

In addition to the science work while on board Mir, Linenger will join Tsibliev in a six-hour space walk scheduled for March to attach a large canister outside the Kristall module that will expose various materials to the space environment. They also will bring in some other experiments attached to the outside of the station. The training "has been extremely interesting," Linenger says, adding, "it's been the most enjoyable part of training so far."

Though he expects to adjust to life away from home, Linenger feels his Navy

experience will help as he prepares for this long duration space mission that will end in May on *Atlantis'* next visit bringing Mike Foale to replace him. "I'm used to being out at sea for six months and so psychologically, I think I pretty much know what's coming and it doesn't bother me much," he says.

The family separation will be the toughest, he says. The first six months of training in Russia was without family and when wife Kathryn and newborn son John arrived last January his life "improved 100 percent." Linenger says that "the family separation was difficult and I suspect the same will be the case during the space flight." Kathryn is expecting the family's second child shortly after Jerry's return on STS-84.

His unique approach in preparing for this flight included becoming happy with himself. "I've been trying to maintain a balanced life to make sure I can be happy with myself — alone."

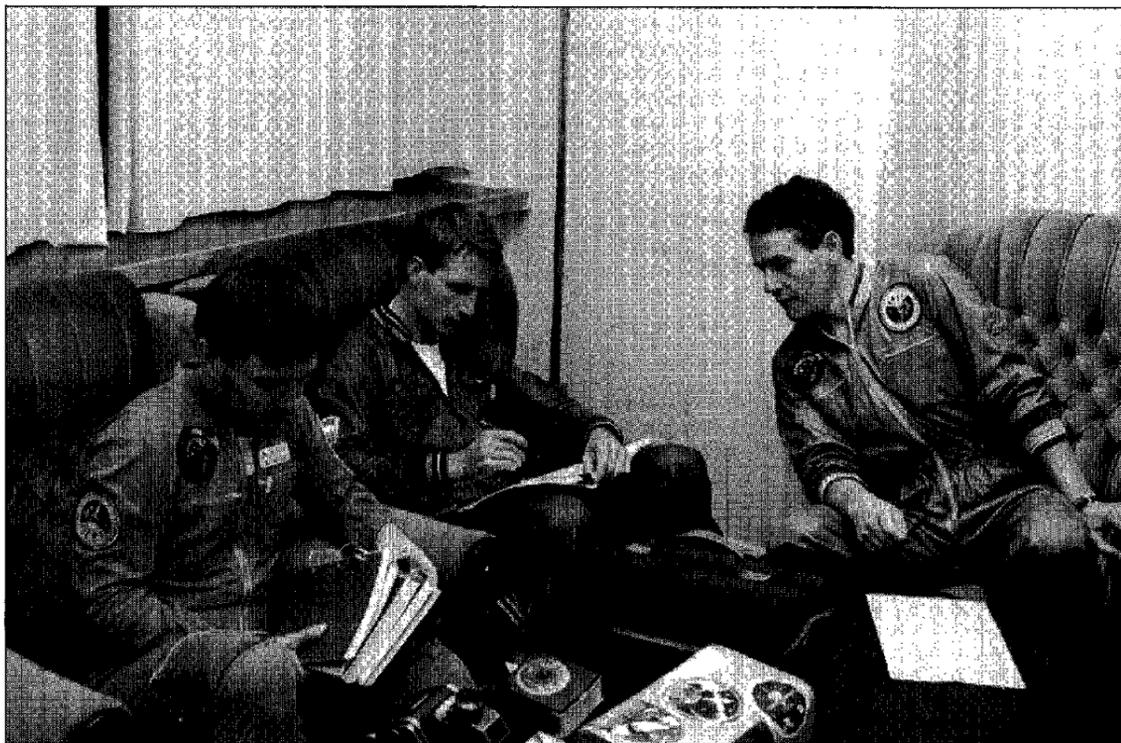
He spent some evenings cross-country skiing in the woods at midnight, "becoming a bit lost, a bit cold and quite a bit tired," he says. "The physical stress, coping with uncertainty and getting close to the edge being alone with only yourself to draw on, trying to get conditioned," has prepared him for life in space.

"There's plenty of mental stress every day trying to understand difficult, complex systems presented in a foreign language," Linenger says. "I guess my approach is to make it my home. I'll put my family pictures up and I'll have my music. It'll be my work place and my living place combined in one, so with that attitude, I don't think I'll feel isolated and removed so much."

On Sunday, Jerry Linenger will begin a five-month Lewis and Clark expedition and cross-country skiing trip all wrapped up into one on a sailing vessel called Mir. □

I'm used to being out at sea for six months and so psychologically, I think I pretty much know what's coming and it doesn't bother me much.

—Jerry Linenger about the isolation of space



From top to bottom, left to right: 1) Astronaut Jerry Linenger discusses Mir systems with a flight instructor at the Gagarin Cosmonaut Training Center in Star City, Russia; 2) Linenger, center, attends training sessions with, from left, Mir 24 Flight Engineer Aleksandr Kaleri and Commander Valeri Korzun.; 3) From left, Linenger, Kaleri and Korzun check out cameras that will be used on board Mir during training sessions in Russia; 4) The Mir 23 crew that includes Flight Engineer Aleksandr Lazutkin, left, and Commander Vasili Tsibliev, right, trained with Astronaut Jon Blaha, center, before his trip to the Russian outpost. In early February, Linenger will become a part of the Mir 23 crew when they arrive at the Russian Mir Space

'97 lineup at Space Center Houston has something for everyone

(Continued from Page 1)

close-up at the space program. Professor I.B. Frazzled explores the most frequently asked questions at SCH, "Where's the anti-gravity room?" Developed specifically for school groups, the professor attempts to answer these questions with the help of test subjects.

"Earth Quest: The Challenge Begins," featured through the month of January, takes visitors on an interactive adventure inside a giant video game as they learn how they can make a positive impact on the environment.

In February, SCH's Educational Programs Department will host "Discovery Day." A unique opportunity for students with physical, mental and auditory challenges to participate in a "hands-on" experience. "Careers in Space Week" will be held from Feb. 17-21 and will feature guest speakers and briefings

on what it takes to be a part of the human space flight program.

SCH will host an International Space Station Educator's conference Feb. 7 and 8. This conference is designed to bring the space station closer to educators through interaction and excitement. The event includes hands-on presentations with interactive components to use in the classroom.

SCH, in cooperation with JSC's Education Team, will sponsor an educator camp-in April 18. Teachers will spend the night at under the stars at Starship Gallery, build rockets and participate in a team night launch.

A new exhibit will be unveiled in mid-March.

"The Roswell Incident: 50 Years of Fact and Fiction," will highlight myths, methods and actual events with interactive displays that could alter opinions.

Both Boy and Girl Scouts will have an opportunity in 1997 to experience space with group discounts and camp-ins. SCH will conduct a month-long salute to the Boy Scouts of America in February, June and October.

Girl Scouts will be honored in April, June and October. Specialist discounts will be available during these months for the troops. In addition, three camp-in will be featured for the scouts. Scouts can test their space skills, earn merit badges and participate in the exploring SCH after the gates close for the

night. Three Cub Scout camps will be offered on March 21, April 25 and Sept. 5. Three Boy Scout camps will be held on Feb. 14, May 10 and Nov. 22. There also will be three Girl Scout Camps on Sept. 13, 20 and Oct. 18.

Other camps also are scheduled to take place this year. A spring break camp will be held March 24-28. Summer camps will be held throughout the month of June and July and the first week in August.

Later in the year, "The Robot Zoo" comes to SCH as an interactive three-dimensional exhibit that seeks to explain the magic of nature through engineering. The zoo will feature robotic reproductions of ordinary animals.

A special IMAX premiere will take place on July 4. *Mission to Mir* features footage compiled by astronauts and cosmonauts during shuttle/Mir docking missions.



JSC worker receives top award

NASA Retiree Burton Cour-Palais recently received a distinguished scientist award from the International Hypervelocity Impact Society.

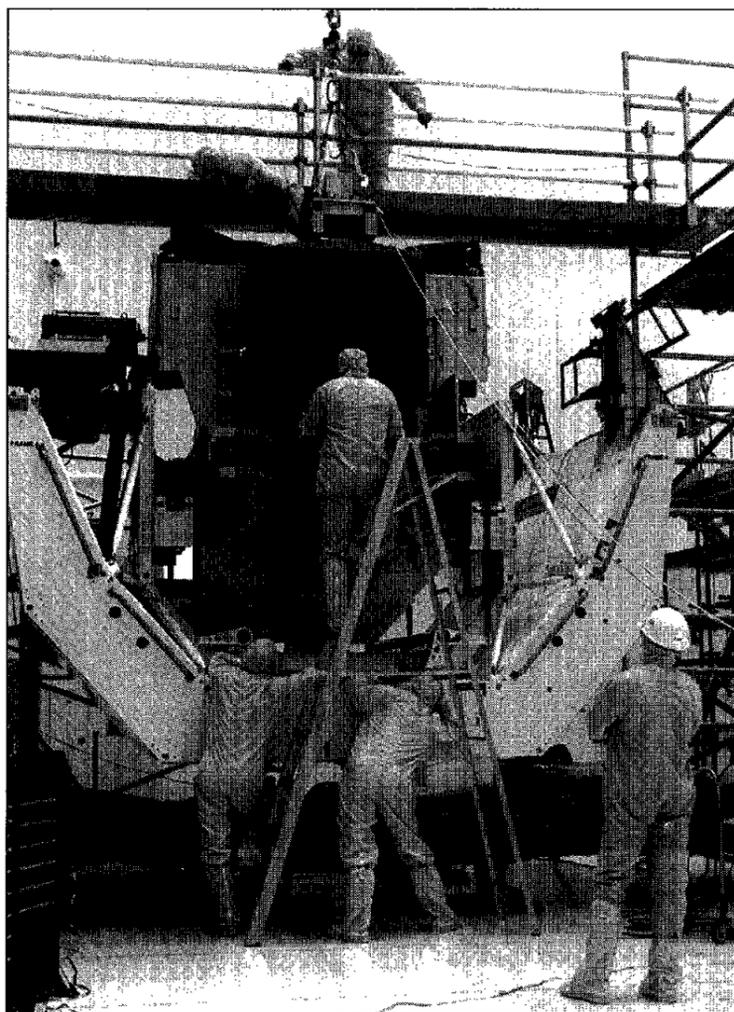
Cour-Palais—the first NASA employee to receive this honor—was recognized for his work on shielding against meteoroids and orbital debris impacts from the Gemini program to the space station. He worked in the Earth Science and Solar System Exploration Division in the Space and Life Sciences Directorate and retired from NASA after 29 years.

The award is given to scientists who have made a significant and lasting contribution to the field of hypervelocity science, the study of the effect of collisions at extremely high speeds, and is judged on its importance, scope, service it yields and how it is used currently.

The Hypervelocity Impact Society awards grants for studies throughout the world. Its objectives are to foster the development and exchange of technical information in the discipline of impact phenomena by promoting technical excellence, encouraging peer review publications and holding meetings on a regular basis.



Cour-Palais



Technicians in the Kennedy Space Center Vertical Processing Facility install a replacement Fine Guidance Sensor in the FGS Scientific Instrument Protective Enclosure, a container that will be flown in *Discovery's* payload for installation into the Hubble Space Telescope. STS-82 is scheduled to liftoff Feb. 13 with Commander Ken Bowersox, Pilot Scott Horowitz and Mission Specialists Mark Lee, Steve Hawley, Greg Harbaugh, Steve Smith and Joe Tanner. Lee, Harbaugh, Smith and Tanner will conduct a total of four space walks to service the orbiting telescope.

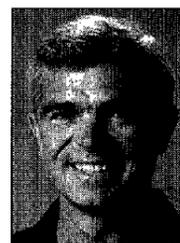
Clifford joins Boeing space station team

Three-time shuttle veteran Rich Clifford left JSC this week to join Boeing Company as a flight operations manager for the International Space Station Program.

"Rich has been a valuable asset and his contributions will be sorely missed," said David Leestma, director of Flight Crew Operations. "We wish him the best of luck in his new position and look forward to a continuing relationship with him as we move forward with the assembly of the International Space Station."

Clifford joined NASA in July 1987 as a space shuttle vehicle integration engineer and was selected as an astronaut in 1990. Clifford flew as a mission specialist on STS-53 in 1992, STS-59 in 1994 and STS-76 in 1996. He has logged 665 hours in space, including a five-hour space walk.

Clifford's first flight on STS-53 carried a Department of Defense payload. He next served aboard *Endeavour* on STS-59, which carried the Space Radar Laboratory, and his final flight was the third docking mission to the Russian Mir Space Station—STS-76.



Clifford

"I have been extremely fortunate to have worked with such dedicated people at JSC and within NASA for the last nine years," said Clifford. "I will continue my earnest support of human exploration of space in my new position with the Boeing Company."

In his new role, Clifford will be responsible for station operations in conjunction with NASA's Mission Control Center and Flight Crew Operations. He will develop operational concepts for mission support and flight procedures.

Clinic receives accreditation

The Kelsey-Seybold clinic at JSC has been awarded a two-year accreditation by the commission of the College of American Pathologists, or CAP, based on the results of a recent on-site inspection.

The laboratory's director was advised of this national recognition and congratulated for the "excellence of the services being provided." The clinic is one of the more than 5,000 CAP-accredited laboratories nationwide.

The CAP laboratory accreditation program is recognized by the federal government as being equal to or more stringent than the government's own inspection. Inspectors examine records and quality control of the laboratory for the preceding two years, as well as the education and qualifications of the total staff, the adequacy of the facilities, the equipment, laboratory safety and management to determine how well the laboratory is serving the patient.

Volunteers needed for on-line shuttle project with students

By Stephanie Smith

The NASA Learning Technologies Project, a NASA wide K-12 initiative, invites employees to participate in an on-line, education project called Shuttle Team Online.

"Shuttle Team Online is an Internet-based educational outreach program that will share real life experiences of the 'behind-the-scenes' space shuttle team with students and teachers around the world," said Chris Culbert, manager of the Information Technology Office. "The goal is to demonstrate to students the variety of skills and edu-

cational backgrounds required to make the shuttle program successful."

The Shuttle Team Online project will reach classrooms via the Internet in the Spring semester of 1997 with a focus on STS-83, the Microgravity Science Lab which is scheduled for a March 20 launch. During this time, Shuttle Team Online will be publicly available in an interactive mode during March, April and May.

"The project will target students in grades 4-12, however, the unique perspective of Shuttle Team Online will certainly be of inter-

est to a much broader group," said Culbert. "Shuttle Team Online will ultimately be a general outreach program to the global community interested in NASA's space program."

Volunteers are needed to share their expertise with students. Volunteers will write brief biographies and "field journals" describing their day-to-day activities. Volunteers also will answer filtered E-mail questions from students. Finally, a limited number of volunteers will be involved in live network events. After the project ends, the question and answer archive will remain available indefinitely.

Shuttle Team Online belongs to a family of successful online education projects such as "Live from Antarctica," "Online From Jupiter," and many others. Online examples are available at <http://quest.arc.nasa.gov/interactive/>

"We're very excited to bring this NASA project to schools in the U.S. and around the world," Culbert said. "We also look forward to working with employees, the people who make it happen."

To volunteer for this project or for more information, contact Frances Harris at x38111 or e-mail at fharris@pt1.jsc.nasa.gov

Blaha prepares for STS-81

(Continued from Page 1)

Commander Valery Korzun and Flight Engineer Alexander "Sasha" Kaleri and stowed in the Spacehab module for return to Earth.

In addition to docking with the station, *Atlantis* will carry the KidSat camera into space. During STS-76, KidSat was successful in taking more than 300 images of Earth. KidSat is a NASA-sponsored research project that links middle, high schools and university students to missions. Students remotely operate a camera, mounted in the shuttle, to take digital still photographs of Earth. Middle school students plan the photos by calculating the longitude and latitude, as well as the time the shuttle flies over the region. High school and university students com-

pile the requests into a single file that is forwarded by KidSat representatives at JSC, to the computer connected to the camera. Using special flight software, the computer commands the camera to snap the pictures. Photographs are downloaded into a single archive that students can access using the Internet.

Meanwhile, Blaha continued to prepare for his return to Earth. He packed 11 bags of gear that will be transferred to *Atlantis*. He performed daily checks and direct feeds of the BioTechnology Systems cartilage growth experiment, and checked the Greenhouse facility and its crop of wheat.

With a successful on-time launch *Atlantis* will return to KSC at about 6:57 a.m. CST Jan. 22.

Space News Roundup

The Roundup is an official publication of the National Aeronautics and Space Administration, Lyndon B. Johnson Space Center, Houston, Texas, and is published every Friday by the Public Affairs Office for all space center employees.

The Roundup office is located in Bldg. 2, Rm. 181. The mail code is AP2. The main Roundup telephone number is x38648 and the fax number is x45165.

Electronic mail messages should be sent to the editor, khumphri@gp301.jsc.nasa.gov or the managing editor, kschmidt@gp301.jsc.nasa.gov.
Editor Kelly Humphries
Managing Editor Karen Schmidt

EOC moves into Phase 2

(Continued from Page 1)

training to help them become comfortable with the system. Training will continue to expand and cover several elements of an emergency including the JSC Emergency Response Team and community emergency response personnel.

The new dispatch area consists of three workstations. Each workstation has a computer with emergency operations software, four video monitors and a microphone to allow dispatch at the same time a call is being taken.

The key to the EOC is its software technology—primarily commercial-off-the-shelf. The system is based on a dual head 133 MHz Pentium processor and the Windows NT operating system.

The workstations run the CAD software from Intergraph and the audio system utilizes Motorola developed software. Since these were commercial products, integration and implementation were straightforward; the only custom code required was that needed to link the packages together.

This move completes Phase 1 of the Emergency Operations Center. Phase 2 will include more extensive training and joint exercises for emergency personnel around JSC and Phase 3 will expand JSC's emergency response role within the community.

"When we complete the EOC, it will be a world-class operation," Anderson said. "We will be top of the line in emergency systems."